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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,865	06/29/2001	Gary J. Swanson	2847.1001-011	5881

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EXAMINER

JUBA JR, JOHN

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 05/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/895,865

Applicant(s)

SWANSON, GARY J.

Examiner

John Juba

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09-28-01 & 01-11-02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>Z</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 8 and 9 are objected to under 37 CFR 1.75 as being a substantial duplicate of claim 2.

Claim 12 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 11.

Claim 26 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 25.

When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3 - 7, 10, 15, 20 - 24, and 27 - 32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over CANON(JP A 62-293222), in view of Gal. As evident by inspection, CANON '222 disclose the invention substantially as claimed,

including a broadband source of illumination(1), a phase element for dispersing(6) and focusing(5) light rays onto an array(3) of pixels. However, CANON '222 disclose a phase element comprising a blazed grating and refractive lenses, rather than a multilevel phase element dispersing and focusing, as recited.

In the field of dispersive color separation for imaging systems, Gal teaches that the function of dispersion and focusing can be integrated into a multilevel phase element having a single profiled surface, and suggests that various embodiments would be useful in display devices(Col. 3, lines 1 - 6). Gal teaches that such integration permits fabrication of a multilevel phase element for dispersing and focusing by use of conventional microlithographic and etching techniques, as has been well-known(Figs, 11 - 16 and 19; see associated text). The resulting thinner, light-weight element permits control of both the bandwidth and shape of the dispersed color spot. S

It would have been obvious to one of ordinary skill to modify the combined diffractive and refractive(grating/lens) phase element of CANON '222 as the multilevel phase structure of Gal, in the interest of providing the dispersing and focusing functions in an element which is thinner and lighter in weight than its counterpart, as suggested by Gal, and which permits integration with the display structure using conventional microlithographic and etching techniques as was well-known.

With regard to claims 3 - 6, 19 - 22, and 30 - 32, CANON '222 disclose a single polychromatic source, rather than a plurality of light-emitting diodes(LED's) or lasers. Nonetheless, the combination of a plurality of LED's or lasers to provide polychromatic display illumination was widely recognized for its more efficient, cooler, and more

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reliable operation than offered by a single polychromatic source. Thus, it would have been obvious to one of ordinary skill to provide a plurality of these solid-state devices, in the interest of providing longer battery life, more stable LCD operation, and greater reliability, as was well-known.

With regard to claims 27 and 23, the arrangement of focusing elements of CANON '222 is believed to provide magnification satisfying the recited relation, and accordingly providing a dispersion element having dimensions substantially equal to those of a pixel.

Double Patenting

Claims 2, 8, and 9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 8 and 9 of copending Application No. 08/443,180.

On these same grounds, claims 11 - 14 are provisionally rejected over copending claims 10 and 12 - 14;

claims 16 - 19 are provisionally rejected over copending claims 16, and 17-19; and

claims 25 and 26 are provisionally rejected over copending claims 25 and 26 of Application No. 08/443,180. These are provisional obviousness-type patenting rejections since the conflicting claims have not yet been patented.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the only differences are that references in the instant claims to

"wavelengths of interest" are more broadly recited in the copending application as simply "wavelengths", and instant claim 11 lacks a recitation that the plurality of focusing elements include a plurality of lenslets. One of ordinary skill would have appreciated that the "wavelengths" to be diffracted and displayed are the "wavelengths of interest". Thus this difference is regarded as being an obvious difference. In addition, instant claim 11 is broader than copending claim 11 by not requiring the plurality of focusing elements to include lenslets. Thus, in this regard claim 11 generically dominates ~~copending claim 10, and a reference that infringes the copending claim necessarily~~ infringes the instant claim.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ichikawa disclose a display with diffractive elements for color separation.

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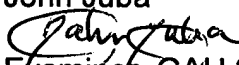
DAINIPPON PRINTING CO (JP07-092328 A) disclose a display with diffractive elements for color separation.

THOMSON-CSF (EP 0421855 A1) disclose a display with diffractive elements for color separation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Juba whose telephone number is (703) 308-4812. The examiner can normally be reached on Mon.-Fri. 9 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on Mon.- Thu., 9 - 5. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

John Juba

Examiner, GAU 2872

JJ
May 2, 2002